A NEW SPECIES OF *IBERVILLEA* (CUCURBITACEAE) FROM WESTERN MEXICO

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ABSTRACT

A new species of *Ibervillea* is described from western Mexico. *Ibervillea maxima* is most closely related to *I. hypoleuca* (Standl.) C. Jeffrey, but has a more robust stature and larger fruit.

Although there are problems with some of the names proposed for *Ibervillea*, study of recent collections by the authors, cultivation of plants from seed and subsequent review of herbarium material from Jalisco, Nayarit, and Sinaloa make necessary the addition of the following species:

IBERVILLEA MAXIMA Lira & Kearns, sp. nov. (Fig. 1)

Ibervillea maxima Lira et Kearns, sp. nov. *I. hypoleuca* (Standl.) C. Jeffrey affinis, a qua fructu grandiore (13 – 15 cm longo, 6 cm lato), ellipsoideo, et pedunculo breviore crassioreque (ca. 10 mm diam.) differt; petala ca. 12-nervis.

Large climbing, deciduous, perennial and dioecious vine, with fleshy, branched, tuberous rootstocks. Stems perennial, 4 – 12 m long, soft-woody, terete, densely striose, becoming ± glaberous in age, with scattered lenticels. Tendrils simple, densely pubescent when young, glabrous and woody in age. Leaves broadly ovate-cordate to subreniform, slightly 3-lobed; lobes broad, obtuse; base cordate with wide sinuses; margins obscurely and sparsely denticulate; lamina ± indurate, 9.5 – 15 cm long, 12.5 – 20 cm wide; upper surface hispid-scabrous; lower surface very densely hispid-scabrous; petioles terete, pubescent, 3 – 7.5 cm long. Staminate inflorescences densely pubescent, of 4 – 10 flowers clustered in shortened racemes, appearing glomerate, with 1 – 2 flowers at anthesis at any one time; peduncle 12 – 18 mm long; pedicels 10 – 25 mm long; flowers salverform, pubescent, ± showy; hypanthium clyindric, slightly expanded in the throat, slightly bulbose at base, 11 – 18 mm long, 3 – 6 mm wide, with outer surface densely appressed-pubescent, with inner surface with scattered few-branched hairs; sepals 5, triangular, 1 – 1.5 mm

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long, densely pubescent; corolla yellow with a greenish center, 5-parted to near the base; lobes bifid and with undulate margins, ca. 12-nerved, densely pubescent, with inner surface and outer margin with yellow glandular hairs; stamens 3, free, narrowly oblong, straight, subsessile, dorsifixed, inserted near the perianth throat, 4 – 5 mm long; anther glands present; pollen spherical, tricolporate, 40 – 50 μm in diameter. Pistillate flowers solitary, similar to staminate; ovary ovoid-fusiform, 10 – 29 mm long, 5 – 8 mm wide in the middle, villous; hypanthium subcampanulate, 5 mm long, 4 – 5 mm wide; sepals triangular, ca. 2 mm long. Fruit an elipsoidal, shortly-rostrate berry, 13 – 15 cm long, ca. 6 cm wide, glabrous, smooth, at first dark green with linear arrays of white spots, at maturity turning bright orange, with a thick, fleshy pericarp; peduncle thick, ca. 1 cm long and 1 cm wide; seeds numerous, each surrounded by a bright red fleshy aril-like structure, pyriform, tumescent, 9 – 10 mm long, 5 – 6 mm wide, dark brown to reddish brown, smooth, with a conspicious tan-colored margin.

TYPE: cultivated in Austin, Texas, 1986 – 89, using seed from *Kearns & Kearns 390*, Nayarit, Mexico, along W side of Hwy 15 at km 39, 3.7 mi N of road to San Blas (Hwy 11), 140 m, 27 Mar 1986, *Kearns C-390* (staminate flowers) (HOLOTYPE: MEXU; ISOTYPES: TEX and to be distributed).

Additional collections examined: MEXICO. **Jalisco**: Mpio. Talpa de Allende, ca. 9 km SW of Talpa de Allende along road to Tomatlán, secondary vegetation, 1140 m, 15 Jul 1989, *Lira & Brunneau 871* (MEXU, TEX) (staminate flowers). **Nayarit**: ca. 8 mi E of San Blas along Hwy, tropical forest, 7 Nov 1961, *Gentry et al. 19479* (LL/TEX) (fruits); along Hwy 200, 8.8 mi N of turnoff to Compostela, 1000 m, 8 Sep 1985, *Kearns et al. 245* (TEX, MEXU) (fruits); along W side of Hwy 15 at km 39, 3.7 mi N of road to San Blas (Hwy 11), 140 m, 27 Mar 1986, *Kearns & Kearns 390* (MEXU, TEX) (fruits); along road to Tepic, 12 km N of Compostela, selva mediana, 910 m, 17 Jul 1989, *Lira & Brunneau 920* (MEXU, TEX) (staminate flowers). **Sinaloa**: near Colomos, foothills of the Sierra Madre, Jul 1897, *Rose 1659* (K) (staminate flowers); Mpio. Gpe. de Los Reyes. Cañada, selva mediana subcaducifolia, 700 – 900 m, 14 Jun 1986, *Vega et al. 1910* (MEXU) (staminate flowers).

U.S.A. MICHIGAN. Washtenon Co.: Dixboro, grown from seed of *Dieterle 4182* (Jalisco, Mexico) at the Univ. of Mich. Botanical Garden, (K) (pistillate flowers).

Ibervillea maxima appears most closely related to *I. hypoleuca*, but is a larger, more robust species. The fruits of *I. maxima* are twice as large and elliptic rather than ovoid. Characters linking the two species include densely scabrous leaves, perennial stems with lenticels, and large fruits with thick pericarps. Because flowering specimens of *I. hypoleuca* are unknown, a comparison of the floral characters of the two species is not currently possible.

Jeffrey (1978), in transferring *Corallocarpus hypoleucus* Standl. to *Ibervillea*, noted the considerable variation in fruit shape and indumentum in the specimens he studied and hypothesized that possibly more than one

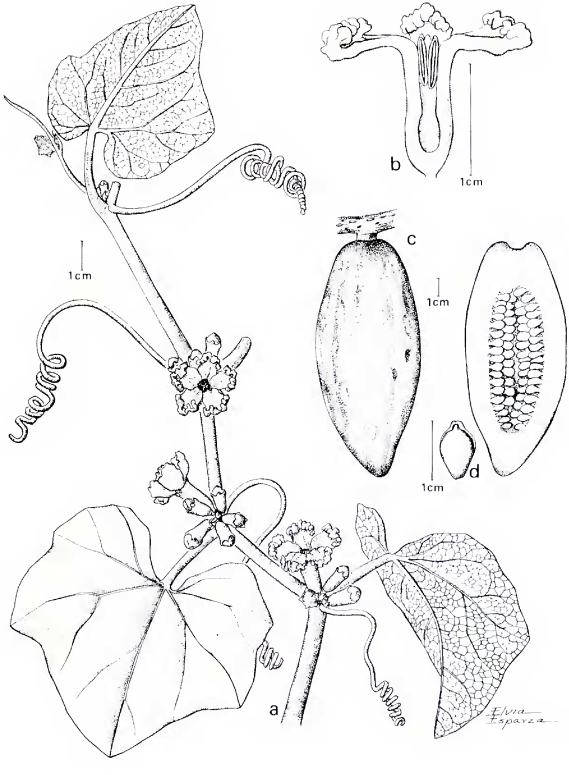

FIG. 1. *Ibervillea maxima*: a) aspect, b) longitudinal section of staminate flower; c) fruit (prior to maturity); d) seed. Illustration based on *Kearns and Kearns 390*, *Kearns C-390* and photographs of *Kearns and Kearns 390* (fruits).

species was represented. Included by Jeffrey in his list of *I. hypoleuca* are specimens of *I. maxima* collected by Gentry (# *19479*) and Rose (# *1659*). Other listed collections may also be *I. maxima*, but we have not had the opportunity to examine the specimens.

Ibervillea maxima can be found in the states of Jalisco, Nayarit, and Sinaloa, at elevations of 140 – 1140 m. The large vines climb high into the trees of the tropical deciduous and subdeciduous forest. During the dry season, the maturing fruits are easily seen among the leafless trees and vines. Although more recent collections are from roadside patches of vegetation, the current distribution appears to reflect land use (i.e., agricultural) patterns rather than evolved habitat preference. The perennial nature and growth habit of *I. maxima* imply that it would normally be a component of mature forests rather than disturbed habitats.

The seeds of *Ibervillea maxima* are dispersed during the dry season by birds which peck holes in the mature (orange) fruits to gain access to the seeds. The sweet red flesh covering the seeds is undoubtably digested while the seed passes through the bird's digestive tract without harm. Although *I. maxima* has a thick and sclerenchymatous seed coat, it does not need to be scarified and germinates quite easily.

The specific epithet was chosen as a reference to the size of the leaves, flowers and fruits, as well as the aspect of the plant, all of which are much larger than the other species of *Ibervillea*.

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REFERENCES

JEFFREY, C. 1978. Further notes on Cucurbitaceae: IV. Some New-World taxa. Kew Bull. 33(2):347 – 380.